

Definition 10.1

Let \mathcal{A} be a \mathbb{K} -algebra. A \mathbb{K} -linear map $\varphi: \mathcal{A} \rightarrow \mathcal{A}$ is called a *derivation* if it satisfies the Leibniz rule

$$\varphi(ab) = \varphi(a)b + a\varphi(b) \quad \forall a, b \in \mathcal{A}.$$

Let \mathcal{A} be a \mathbb{K} -algebra. The set of all derivations on \mathcal{A} is denoted by $\text{Der}(\mathcal{A})$.

Let \mathcal{A} be a \mathbb{K} -algebra. The set of all derivations on \mathcal{A} is a \mathbb{K} -vector space.

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Professional Power Team
